

Storage Device Capable of Increasing Transmission Speed

Abstract

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The present invention provides a storage device capable of increasing transmission speed, comprising at least a controller and at least a solid state storage medium; wherein said controller has at least an internal system interface that 10 may be connected to an external system end, a microprocessor that processes system instructions, and a memory interface communicates with said solid-state storage medium; a data compression module is devised between said system interface and said memory interface and is used to compress the raw data 15 transferred from the system interface into compressed data; said data compression module is equipped with multi-tiered front-end data caches and rear-end data caches between the system interface and the memory interface; said front-end data caches and rear-end data caches are arranged as caches to store 20 raw data transferred from the system interface and compressed data to be transferred to the memory interface, in order to implement parallel operation among raw data transmission, compression of raw data stored in the caches, and transmission of compressed data so as to increase significantly the data 25 transmission speed of said storage device.

[Field of the Invention]